Line and the Landscape:
An Exploration into the Process of Making Landscapes

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by

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s p e c i a l t h a n k s t o . . .

Andrea Hammer for allowing me to see the landscape
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Abstract

The interaction of man with his environment rests in a linear relationship of representation, form making, and dialectic. As referenced through the theory of painting, pictorial form is created through the use of point and line to plane. An inherent parallelism is established between the act of creating form on a surface and man's act of creating landscape. As humans we create the landscape through the body from eye to mind to hand. The idea of the point is expressed as the physical form of man in relation to the surface of the earth. Man interacts with his environment through the activation of that point into linear form. The intersections of linear form created makes visible the language of man's relationship with his environment by creating, framing, and forming the horizontal plane of the landscape. The exploration into this process of making the landscape exposes man's perception of his environment in a manner that begins a personal dialogue between the landscape and myself. Using this exploration, I begin a personal grounding of the landscape with my hometown of Altoona, Pennsylvania. Formalizing the relationship I have had to the landscape I was born into establishes a framework for continual intrigue into the making of the landscape.

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Preface

The idea of exploring line and the landscape came from the physical connection between my eye, my mind, and my hand to the landscape. The act of creating landscape inherently follows this anthropomorphic and cyclical course. This body of work follows my exploration into the act of creating the landscape heightening the process of gaining knowledge of and a connection to the landscape. The processual act of gaining knowledge is more fulfilling than the act of giving a finite solution. This body of work initiates a dialogue to the landscape, which shall continue to evolve throughout my earthly life. It merely represents the thoughts and ideas that I am frantically grasping to while participating in the dynamic and evolving structure of the landscape.

I need to premise my use of the word landscape throughout this work. When I write of the idea of landscape I am speaking of the horizontal surface that man has veiled onto the earth. It is the skin that cannot be removed from our interactions with our environment. It is a human construction in which we all live within and form through culture. It is a systemic matrix of people, culture, representation, and environment that is formed by how we live and act upon the surface of the earth. Its illusiveness to physically grasp substantiates the perpetual dialogue between man and its environment.

I begin each section of part one of my investigation with excerpts from the painters Paul Klee and Wassily Kandinsky. I frame my exploration of the making of landscapes through words of the artist because of the connection between representation and the idea of landscape. Eighteenth century landscape painters framed the American landscape establishing a dialogue between the landscape and the act of creating it on a canvas surface.

"As usual, I shall say nothing new, merely reformulate some of the old." (Gunnar Olsson)

Point

"The point is the result of the initial collision of the tool with the material plane" (Kandinsky. 1979). The point is the beginning of the generation of pictorial form with the first mode of interaction between form and surface. The painter Paul Klee speaks of the point as the primordial element. It is the initial act of representation, movement, and creation; all things start from a point or concentration of energy. The point is energy "organically bound up with the utmost restraint. The point is the innermost concise form" (Kandinsky. 1979). The tension of the point rests inside of itself, within the motionless nature of its being. The point is analogous to the idea of creation, birth, and beginnings. It is the point that I shall begin with in the investigation of the process of generating form on the surface of the earth by man.

m a n a s p o i n t .

"The finger is literally indexical – it points to something to draw our attention to it… It stabilizes a particular meaning within a world of possible meanings" (Pickles. 2004). The point is conceived as circular in connection to man's finger and the sharpness or tip of a drawing utensil. The point may take on any form with the intention that the activation of that motionless element expresses itself in a linear fashion. Man is expressed on the surface as energy at rest until activated to produce a form. "Outwardly the point is physical expression. Inwardly it is the tension of maximal/minimal meaning" (Olsson. 1991). Tension exists in the relationship between humans as they act as points on the surface. Man as point is the simplest and briefest tactile implantation onto the surface of the earth with physical form. Kandinsky's view of the point as a motionless beginning parallels the temporality of the point of man.

Man as point. Man as beginning. Man at rest.

The idea of man as a point has to be spoken of in relation to a plan view of the earth. Edward Hall's doctrinal book on spatial behavior of humans, *Hidden Dimension*, was first published in 1966, the same year we first saw the view of earth from outer space. Interestingly, spatial cognition in geography was flowering during the 1950's and 1960's. Spatial behavior and spatial cognition deal with the interactions of humans in space and the relationship of humans to the built environment. Spatial behavior is grounded in the distance between human interaction and spatial cognition is grounded in the acquisition and interpretation of visual stimuli in the built environment. The idea of spatial behavior, spatial cognition, and the physical manifestation of man's social interaction developed at a time when man was first able to see himself positioned on the entire surface of the earth. This worldly view and an increased use of the aerial help to establish the framework of man as point on a collective surface. Viewed from above we are points, congregating into communities, cities, resting in homes, but ultimately a group of points moving on a surface.

The idea of man as having an apparent pointal quality is evidenced in many layers of investigation.

vitruvian man.

"In the human body the central point is naturally the navel. For if a man be placed flat on his back, with his hands and feet extended, and a pair of compasses centered at his navel, the fingers and toes of his two hands and feet will touch the circumference of a circle described therefrom. And just as the human body yields a circular outline, so too a square figure may be found from it. For if we measure the distance from the soles of the feet to the top of the head, and then apply that measure to the outstretched arms, the breadth will be found to be the same as the height, as in the case of plane surfaces which are perfectly square." (Vitruvius)

Leonard da Vinci's seminal drawing of the Vitruvian Man in 1490 expresses the circular dialectic present in the geometry of man; the geometry of our arms, our legs, and our proportions. The idea, originally explicated by Marcus Vitruvius but drawn out by Leonardo, focuses on the perfect dimensions and inherent geometries of man in relation to the built environment. The proportionate man expressed within the circle creates a dialogue between the human body, geometry, a surface, and the built environment. For man to represent the physical nature of himself onto a surface inside a circular geometry, considered by both Vitruvius and Kandinsky to be pure, perfect, stable and unstable, exposes the anthropomorphic view in which we view our environment, production of form, geometry, and space (Kandinsky. 1979). This act of representation parallels the manner in which man has created and formed the idea of landscape. We invent and investigate geometries, pedagogy, and thoughts to substantiate our role in the surfacial environment we create. We are constantly searching towards something or emphatically drawing conclusions from how we interact with the environment. We place our figure onto all that there is in hopes of inherently proving the hierarchical connection between man and the

other.

The center of both the circle and man is the navel, once again physically connecting the point with birth and the placidity of new beginnings. It is important to not forget that the figure is inscribed within a circle and square. The square and circle are the simplest derivates of form, connecting the pointal frame of man to the generation of all form. The Vitruvian Man image is a seminal image in geometrical and architectural representation, but it also becomes a key point in the framing of the creation of landscapes. We create all things in relation to us, thus all things created speak to those who created them. "There is an immediate relationship between the body and its space, between the body's deployment in space and its occupation of space. Before producing effects in the material realm (tools and objects), before producing itself by drawing nourishment from that realm, and before reproducing itself by generating other bodies, each living body is space and has space: it produces itself in space and it also produces space" (Lefebvre. 1991).

points as stasis.

Points are framed within a central place theory or place of rest or gathering. The energy of man in relation to the surface of which he acts is a point, but also the physical placement of man on the surface of the earth formulates into particular spatial points. Any spatial area on the surface in which we rest or stop becomes a point in the journey of man both physically and conceptually. This stasis can be physically traced to many structures within the landscape, including on the macro-level the urban condition or on the micro-level the home, park, bench, or office. These spaces become points because of our connection to them and the temporality we place upon them. Ultimately, points are stasis in relation to a surface. Similarly, places we congregate, rest, and stop are points on the surface of the earth.

spatial behavior.

"The point is the proto-element of the graphic, hence of thought itself. To understand is to condense a thought-position into a point and place it in relation to other points" (Olsson. 1991). The relationship between humans in space is framed through the distance that separates the sensuality of each interaction. We are dependent upon others, not necessarily for resources but to acknowledge our presence. Jackson speaks of the human identity as relational to only those who perceive it (Jackson. 1970). Edward Hall describes the distances separating humans as characterized by a layered series of interaction zones. The zones as he describes them are of the intimate distance, personal distance, social distance, and public distance (Hall. 1966). Each distance or zone is conceived as a circle or bubble surrounding the human form. How humans interact with each other is grounded in the circular geometry of a point, in which the point that we occupy or exude varies upon the kind of social interaction we are in. "What we register in passersby are their posture, their gait, and how they respond to the presence of others" (Jackson. 1994). The more personal the interaction the smaller our spatial point becomes and vice versa.

spatial cognition.

The idea of stasis on a surface as representative as points can also be found embedded within the framework of spatial cognition. Kevin Lynch developed the idea of spatial cognition to investigate the acquisition and interpretation of the designed spatial environment. This idea hinged upon the legibility of a designed environment to allow the human to locate himself spatially and direct himself cognitively through the environment. Lynch theorized a series of factors that provide legibility to an urban condition including paths, edges, districts, nodes, and landmarks (Lynch. 1960). Two factors that become important in this discussion are nodes and landmarks.

Nodes as described by Lynch are “the strategic foci into which the observer can enter, typically either junctions of paths, or concentrations of some characteristic” (Lynch. 1960). Nodes are where one must stop, make a decision, and proceed. It is a point of energy and people in which the concentration of stasis forces the decision making process to proceed or to enjoy the stasis. In spatial cognition, landmarks exist as spatial reference points providing a framework for you to place yourself within. Therefore, a legible environment as prescribed by Kevin Lynch consists of a network of points or nodes connected through cognition and movement.

you are here maps.

Connected to the idea of stasis on a surface and spatial cognition is the idea of wayfinding and you are here maps. These maps are meant to locate you in relation to the 3-D and surfacial environment. The use of these maps become apparent when one is lost, when one has paused to collect his orientation, and when one has no understanding of his environment. The method used to represent your location or place is a point, emphatically stating you are here. This is you. You are this point. You are forced to spatially understand this mode of representation as your basis to progress through the spatial environment; I am a point on a surface surrounded by things.

eye to mind to hand.

“The eye and index finger become metaphors for grasping the distanciation inherent in all subject formation. Our only contact with the world is through the holes of our bodies. It is through them that individuals are penetrated by society and its accepted norms of thought-and-action. It is by such bodily means that you and I become obedient and predictable. But it is also through these same organs that you and I penetrate others and

thereby the world" (Olsson. 1991).

The process of man's interaction with environmental stimuli follows a serial process of eye to mind to hand. This is the process of how things are created, specifically lines. We perceive stimuli, process the information, and act. That reaction is the movement of an object or body in some manner on the surface of the earth to produce form. The point is put into motion. The process of creating is enacted and lines begin to pour onto the surface of the earth. The collective points on the surface congregate and separate leaving lines of intersection, confluence, and speculation. The process of creating landscape is begun.

Line

The line is created by the tension of the movement of the static point (Kandinsky. 1979). The idea of making of a line is intimately connected to the idea of moving oneself or an object in relation to a surface. “Apply the pencil and shortly a line is born” (Klee. 1964). A line is created in the tensile positioning between points and the act of connecting those points through the force of movement, establishing relationships and a composition. “The energies that move a line are the result of forces moving in different directions. Tension is connective” (Klee. 1964). Line is the language or dialect in which we create form onto a surface. When a point is acted upon it has the tendency to run on a straight course to infinity, thus representing the most concise form of the potentiality for endless movement (Kandinsky. 1979). “The simplest form of the straight line is the horizontal. In human imagination, this corresponds to the line or the plane upon which the human being stands or moves” (Kandinsky. 1979). The line is a conscious act to produce, create, and ultimately live. Lines create landscape.

h u m a n a c t i o n .

“From their first scratches on the cave wall to show the migration patterns of the herds, they have traced lines and lived inside them” (Pickles. 2004).

The line is a human constructed act. As discussed by John Pickles, we have always lived within the constructs of lines. Lines are formed through “our participation with things: material objects, images, values, cultural codes, places, cognitive schemata, events and maps” (Cosgrove. 1999). We react to participate and produce. “Humans touched, saw, heard, smelled, tasted, lived in, and shaped landscapes before the species had words to describe what it did. Landscapes were the first human texts, read before the invention of other signs and symbols” (Fieldhouse. 2005). Lines are how we author the earth. Lines are evidence of man’s connection to the surfacial environment and also often to the gods, such as in Pueblo Bonito and Chaco Canyon in the American Southwest landscape. Lines “have a threefold nature: they are at once the guide, the outcome, and the gauge of cultural activity and meaning” (Corner. 2000). “I take landscape to be a way of envisioning, contemplating, manipulating, and representing the natural world, always a construction and thus primarily ideational rather than inherent in nature. The principles of geometry thus connect landscape to nature” (Cosgrove. 1999). Lines are the act of shaping the land as we move from point to point, leaving traces of our linear movement on the surface of the earth. “Wherever we go in the contemporary landscape we run across these signs: boundaries, roads, and places of assembly. We read them at once, and we not only read them, we create them ourselves” (Jackson. 1984). Lines are the evidence of action, thought, and community.

b o u n d a r i e s .

“Geometry is the pure spatial language of mind, the indicative capacity of the intellect to construct order out of chaos by establishing a bounding line between the two” (Cosgrove. 1999).

To define a boundary is to create a territory, a linear separation of things. Boundaries are dependent on the other, whether it is nature or human. They are representative of our scientific infatuation with the objectivity of classification. “To categorize is to draw a boundary” (Olsson. 1991). Boundaries are democratic in the United States. “A boundary is what makes it possible for a society to have its own individuality” (Jackson. 1970). The national grid system of the United States is based on the idea of boundaries, democracy, and speculation. Boundaries often become an inerasable feature in the landscape because of the importance placed on the stability of boundaries in social and national relationships, such as roads, walls, buildings, and fences.

Boundaries in the contemporary landscape are the first step in creating - the boundary of site, of property, of city, of canvas, of paper. They establish a limit of identity, often not made by or decided by the one who is creating or acting upon a given surface. Boundaries are not simply physical, but are underlaid with social, political, and economic agendas, irrevocably related to the maker of the boundary. A framework of boundaries guides the surface of the American landscape based in the establishment of the democratic system by our forefathers with the “uniquely American values of democracy, freedom, accessibility, and social improvement” (Corner. 2000).

r o a d s .

Boundaries are often established through the framework of the road infrastructure. Roads are the most emblematic and visible line of contemporary culture made onto the surface of the earth. The road facilitates move-

ment in the contemporary world, but it is also the most powerful element in the constructedness of our environment. The road is a public space confronted in a personal way. “Roads no longer lead to places; they are places. And as always they serve two important roles: as promoters of growth and dispersion, and as magnets around which new kinds of development can cluster.” (Jackson. 1994). The road is the physical connection between points on the land embodying the essence of making a line on a surface and the possibility of endless movement. The road has stretched the surface of the United States, so much so that the United States is often represented through the network of highway systems present on the landscape.

g r i d s .

“It is this grid, not the eagle or stars and stripes, which is our true national emblem. I think it must be imprinted at the moment of conception on every American child, to remain throughout his or her life a way of calculating not only space but movement” (Jackson. 1994).

The American grid is linked to the birth of democracy, justice, utopias, and Virtuous Citizens. Not only is a large part of the continental United States transposed with the national grid system, but also the grid typifies the urban condition in America, in cities such as Philadelphia, New York, and Chicago. “Our national grid system, the triumph of geometry over topography, will be with us all till the end of time” (Jackson. 1984). The national gird system was the framework for the speculative expansion of the West and has been an icon of the geometry of man placed onto the surface of the earth.

The grid as representation can operate in three ways -“First, it sets up the units of close-up looking, allowing us a multiple choice in effect: our eye is free to select any given unit for scrutiny. Second, regarded as a sum of squares, the totality of units can be seen as one sizeable but coherent rectangle…But the grid is also operative

in a third way: precisely because it is perceived as both a single set of squares and a group of separate squares, it enables us to relate one to the other in a complex, interactive matrix" (Casey. 2005). Charles Waldheim reiterates, "This organization lends legibility and order to the surface while allowing for the autonomy and individuality of each part, and remaining open to alternative permutations over time. This stages the surface with orders and infrastructures permitting a vast range of accommodations" (Corner. 1999). The grid exists as a network of lines made in a proportional manner to one another most logically on a flat surface. The power of the grid rests in its rational adaptability of scale onto any surface.

line walks.

Richard Long is an artist that walks the surface of the landscape. Long's sculptural works become an action on the surface. His works are often simply the documentation of a journey on paper, but the depth of his work lies in his interaction with that landscape. Long walks in a linear journey often based on a map but traveled on the surface. Long confronts the surface in a conversation with the land leaving lines of stones, well-trodden paths, or lines of wood. He works between a map surface, his body, and the surface of the earth. Long heightens the idea of linear movement and the connection of points. A line becomes an emblematic personal journey empowered by a dialogue with the surfacial environment. The ephemeral temporalities present in Long's walks makes us aware of the idea of the moving processes of the natural world and the geometry of man placed into those processes.

lines of power.

Lines of power refer to the power held in the mapmaker's hand or computer mouse. The lines of maps represent on the same level the cultural and personal ideologies of the maker, as do the lines created by man on the surface of the earth. "Cartographers manufacture power. They create a spatial panopticon. It is a power embedded in the map text. We can talk about the power of the map just as we already talk of the power of the word or about the book as a force for change. In this sense, maps have politics. It is a power that intersects and is embedded in knowledge. It is universal" (Pickles. 2004). The nature of mapmaking is representation for purpose, whether it is nationalistic or propagandistic.

"Map-makers have always understood the importance of choice in map design" (Pickles. 2004). Lines on maps are not naïve representations of the objectified world. The lines are chosen. We are forced to accept the values of the mapmaker and view it as truth. We are trained into the coded system to understand the importance of what is represented and ultimately as verifiable in the real world. The god's-eye and the all-knowing view allow the objectification to foster as the frame through which we view maps. The lines drawn on the surface of the map are deliberate and can empower a nation of people into action, such as the National Survey of 1785.

aerial.

"The bird's-eye view prompts one to reflect upon the remarkable capacity of humankind to colonize and transform the surface of the earth. From high above, the American landscape appears as a patchwork of geometric regulation, punctuated by odd circles and large clusters of settlements. The ground is crossed by meandering rivers and diverging, straight lines of highways, railroads, canals, and transmission cables. Nearly all four mil-

lion square miles of the United States have been marked in some way by people" (Corner. 2000).

The aerial becomes important in not only seeing the breadth of the linework created by the hands of man, but also its argued objectified position in connection to mapmaking and cartography. The aerial provides a god's-eye-view empowering man, but still thrusts the unavoidable question into the forefront of the mind, what have we done? The aerial provides a scale of imagery not present on the surface, allowing us to visualize, understand, and create new relationships to our surfacial environments. The aerial attacks the role of the map in contemporary society with the advent of GoogleEarth and satellite imagery. The surface of the earth becomes a catalogue, encyclopedia, and dictionary of the linework of man. The current work of Alex MacLean and other aerial photographers use the aerial as spectacle of the vernacular landscape. The geometries of man and their relationship to the land have been documented in many coffee table books since. These recent developments of aerial imagery allow the surface to become a commodity, with the lines we create as evidence of exchange.

Plane

"The term basic plane is understood to mean the material plane which is called upon to receive the content of the work of art" (Kandinsky. 1979). The plane results from the movement of line to line to form a surface material, typically a square or rectangle in graphic form. "The basic plane is material: it is created in a purely material way and is dependent upon the nature of this creation" (Kandinsky. 1979). The surface of the plane is created through the use of bounding lines. The created composition is either imbedded within the plane or resting upon the surface. The plane is the creative surface upon which all things are made.

l a n d s c a p e i s h u m a n .

"The antithesis of wilderness is landscape, the land shaped by men" (Stilgoe. 1982).

The plane of the landscape is framed through us; a synthetic manmade surface that we create. The landscape is a construction of markings, lines, demarcations, settlements, spacings, and tracings. "Landscape is not merely the world as we see it, it is a construction, a composition of that world. Landscape is a way of seeing the world" (Fieldhouse. 2005). The landscape is a point of view, an ideological concept. "A landscape is thus a space deliberately created to speed up or slow down the process of nature. As Eliade expresses it, it represents man taking upon himself the role of time" (Jackson. 1984). We operate in the belief that we have dominion over the surface of the earth. The landscape allows us to think; it allows us to operate. Ultimately, the landscape is where the metrics of humanity are authored onto the surface of the earth. It is how we have denoted ourselves in relation to other groups through the natural environment. We are the landscape.

The landscape is a communal experience on the creative surface of the earth. "But we should not use the word landscape to describe our private world, our private microcosm, and for a simple reason: a landscape is a concrete, three-dimensional shared reality" (Jackson. 1984). The landscape is a human construct made to serve a community or a group of people. It is the definition of the relationship of man to his environment and to the collective. "No group sets out there to create a landscape, of course. What it sets out to do is to create a community, and the landscape as its visible manifestation is simply the by-product of people working and living, sometimes coming together, sometimes staying apart, but always recognizing their interdependence" (Jackson. 1984).

landscape as history.

The plane of the landscape is the visible creation of history. The landscape exists in a series of layers, or milieu of landscape, constantly thickening and enriching with the process of time. While the landscape exists in the present layer of that milieu, the visible trace of previous layers and the perpetual addition of future layers are constantly felt. The landscape is an indication. It traces the past and hints towards the future. The landscape is a document of people. "We create them and need them because every landscape is the place where we establish our own human organization of space and time" (Jackson. 1984). The landscape gives us a "form of text that can be read by the discerning expert and that contains within it an extensive record of past human activity and intent" (Fieldhouse. 2005). The landscape provides us a datum to understand man and his relationship to the environment and his cultural and social values. The landscape is a palimpsest. We can understand how people adapt their environment through their spatial patterns and line making. The landscape is a document of line making. It is a clue to culture. Who made it? Why did they make it? When did they make it? What other landscapes were being made at the time? How did it change? The landscape is way of understanding a previous world and our inheritance of that world.

vernacular landscape.

The vernacular landscape is the working landscape; the visible undesigned landscape of the banal and everyday living. It is a way of life where line making and habitation are the bare essence of man's relationship to the land and his environment. The lines created in the vernacular are strong and direct; they are the lines of living, made expeditiously without frill. They are an expression of knowledge with simple solutions to the problems of living. The vernacular landscape is an indication as to where we are and what we are to become. "The culture of any nation is unintentionally reflected in its ordinary vernacular landscape" (Meinig. 1979). The vernacular

is the specificity of site, local materials, tradition, and culture, often seen as a buffer to the homogenization of the global environment (Corner. 1999). The vernacular is connected to the "peculiar characteristics of a location that tell us something about its physical and social environment" (Hough. 1990).

The home and its environs become an important piece of the vernacular landscape and everyday living. "The house is the microcosm, the prime example of Man the Inhabitant's effort to organize his environment, to create a landscape which will satisfy not only his biological but also his social and spiritual needs" (Meinig. 1979). The stability of the home in the process of living, working, and habituating allows for a strong relationship between man and his environment and between man and other men. "Human nature satisfies its needs in many ways, but the needs are everywhere essentially the same" (Jackson. 1984). Therefore, the home becomes integral to the understanding of the cultural landscape.

landscape is representation.

The landscape can be an object. It is a thing to capture, hold, represent, and contemplate. As a representation, the landscape is detached from the realm of the participant and viewed from the viewpoint of an observer. "Landscape and image are inseparable" (Corner. 1999). Whereas the American landscape began as scenic view or frame of the pastoral environment by the Hudson River School of landscape painting, the actual construction of the landscape began as a continuation of the graphic representation of the environment on the surface of the canvas. "The development of landscape architecture as a modern profession derives, in large measure, from an impulse to reshape large areas of land according to prior imaging" (Corner. 1999).

"A landscape is a cultural image, a pictorial way of representing, structuring or symbolizing surroundings. This is not to say that landscapes are immaterial. They may be represented in a variety of materials and on many

surfaces – in paint on canvas, in writing on paper, in earth, stone, water and vegetation on the ground" (Cosgrove. 1988). The landscape is amorphous and rests solely on how we perceive our environment. "People have been taught to see the scenic landscape through the eyes of the artist" (Hough. 1990). We are constantly trying to frame it, capture it, and preserve it through forms of representation. The representation of the landscape is connected to our imprint on cultivated land, tracing its origins to the German word *landschaft*, or shaped lands of a working community (Corner. 1999). This became the object of landscape painting, perpetually tying the representation to the constructedness of the reality.

landscape as cartography.

"The world has literally been made, domesticated and ordered by drawing lines, distinctions, taxonomies and hierarchies: Europe and its others, West and non-West, or people with history and people without history. Through their gaze, gridding, and architectures, the sciences have spatialized and produced the world we inhabit. And, indeed, this is perhaps the crucial issue: maps provide the very conditions of possibility for the worlds we inhabit and the subjects we become" (Pickles. 2004).

The plane of the landscape was founded on the idea of representation. We have historically represented the world through mappings from the god's-eye-view. Maps have been important for centuries for exploration, colonization, imperialization, and any other extensions of human power onto the surface of the earth. The map is tied to demarcation and power, not only of those who are making the map, but also of the totality of the dominion of man over the surface of the earth. The map is a representation and cultural object of the spatial ordering of the surface drawn by man, existing as inherently subjective, artificial, and abstract. "The old saying warns, all maps lie flat, therefore all maps lie" (Pickles. 2004). Because maps are direct in their presentation of reality, we perceive them to be universally objective and true. This has historically led to the use of the map as means

for propaganda and nationalism.

The act of mapmaking initiates a dialogue between the objects on the map and the reality they represent. "Systems of meaning are inscribed in maps through lines, boundaries, and symbols that give meaning and reality to the world. These are not mere representations of reality but come to represent objects whose existence is in part conditioned and produced by their representations" (Pickles. 2004). The environment in which we live in is based off of the construction of mappings and the institutions that support their making, such as towns, roads, infrastructure, housing, and neighborhoods. The map is a created surfacial landscape, drawn from authority and followed by the collective. The lines plotted onto the surface of the map frame our contemporary existence.

landscape urbanism.

The power of the plane of the landscape lies in its formative presence. When viewing the landscape as the plane upon which all of humanity occurs, the landscape becomes important in the process of human settlement from the vernacular landscape to the urban condition. Landscape urbanism frames itself within the idea that the "landscape drives the process of city formation" (Waldheim. 2006). Ian McHarg's seminal book, *Design with Nature*, laid the initial groundwork for connecting the natural processes to surfacial form in the 1970's. The flux of the open-endedness of natural processes provides an analogous structure for the processes and systems of the city to grow, breathe, move, and pulsate. The strength and adaptability of the natural frames the cultural and systemic flux of urbanity. Landscape urbanism is one of the most recent triumphant reaches towards a more cohesive connection between man and his environment.

"The discourse surrounding landscape urbanism can be read as a disciplinary realignment in which landscape

supplants architecture's historical role as the basic building block of urban design" (Waldheim. 2006). The ambiguity in the layering of the plane of the landscape inherently situates itself within an urban situation that can connect itself physically to the natural processes of the environment and to the temporality of the current urban condition. The landscape is not directed. The landscape is processual and continual, as is culture. Landscape urbanism utilizes the construction of the landscape as a "pervasive milieu, a rich imbroglio of ecological, experiential, poetic, and expressively living dimensions" to generate surface form of new environmental and existential promise (Corner. 1999). The construction of the plane of the landscape can begin to inform itself.

I was born into a landscape that I was not aware of until now.

I knew of the railway lines bisecting the town. I knew of that light blue bridge that spanned across the tracks joining both sides of the town; the bright paint masking the rusting infrastructure underneath. I knew of the soft sound of clicks and screeches on a hot summer night rolling from the darkness while sitting on the front porch sipping Mom's iced tea. I knew of the whistle blown at the end of the workday at the railroad shops and the Whistle Stop Bar located nearby. I knew of the Horseshoe Curve from grade school field trips. I knew of the vibrant downtown from historic photos pinned on the wall at the local ice cream stop. I knew of the city blocks that I played on with my neighborhood friends. I knew of the local park and playground as a gathering space for all of the kids in the area. I knew of the mall and shopping centers straddling the boulevard. I knew of the huge parking lots that were connected along the boulevard. I knew of the name Pleasant Valley through the names of shopping centers, my high school gym, and boulevards. I knew of the Appalachian Ridge because of my fear of tornadoes and my mother's reassurance that the mountains surrounded us. I knew of the highway running along the mountainside and the view down onto the town from a mural on the wall at the train station.

I knew of the landscape but the landscape existed in these short memories in isolation of one another.

Figure 2.0.1 Personal Nostalgia

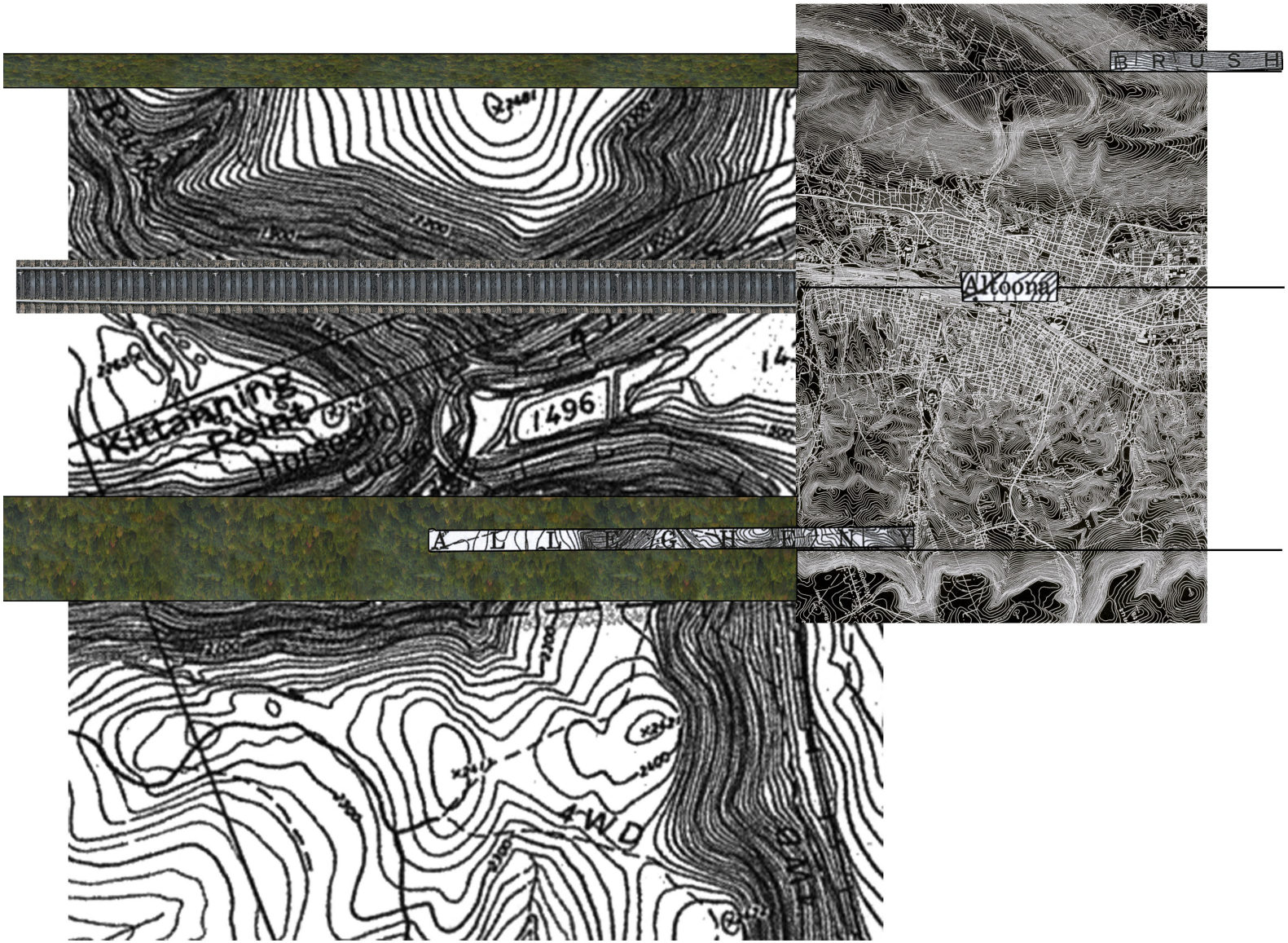


Figure 2.0.2 Railroad Placement Between Allegheny Mountain and Brush Mountain

History

The area of Altoona, Pennsylvania was originally inhabited by Native Americans of the Iroquois Confederacy. The first western settlers arrived in the mid 1700's building stockades against Indian raids. In 1811, iron making began at the Allegheny Furnace. The owner of the furnace built the still standing Baker Mansion nearby. By 1831, the Main Line of the Pennsylvania Canal was extended west from Philadelphia and Harrisburg to Hollidaysburg, south of present day Altoona. The Canal connected to the Allegheny Portage Railroad in 1834, which hoisted boats over the Allegheny Ridge on primitive rail cars connecting westward to Pittsburgh.

The Pennsylvania Railroad was chartered in 1846 as Pennsylvania continued to grow westward (**Figure 2.1.2**). The board of directors of the Pennsylvania Railroad decided to locate the line of a cross-state railroad through the Logan Valley in the Allegheny Mountains. In 1849, the PRR began developing the community that became known as Altoona as a staging area for the construction of the rail line. The town site lay 235 miles west of Philadelphia and 116 miles east of Pittsburgh. The farm of David and Susannah Robeson purchased by John Wright in 1849 became the original 224-acre core of Altoona. Altoona owes its origin and growth solely to the Pennsylvania Railroad. While most cities were located along rivers, Altoona was located at the approach to the Horseshoe Curve. By 1850, the railroad had been constructed from Harrisburg west to Altoona. The Allegheny Ridge was a major barrier to the completion of an east-west railroad across Pennsylvania. Through innovative engineering, the Horseshoe Curve, now a National Historic Landmark, was completed in 1854 west of Altoona to provide a westward passage at a grade that was gradual enough for heavy trains transporting large amounts of goods to cross the ridge. Once this route was completed, the railroad was able to replace the Main Line of the Pennsylvania Canal as the primary means of transportation east/west across the state. By 1858, the travel time between Philadelphia and Pittsburgh had been reduced to 15 hours, as opposed to the three days required before the railroad was built.

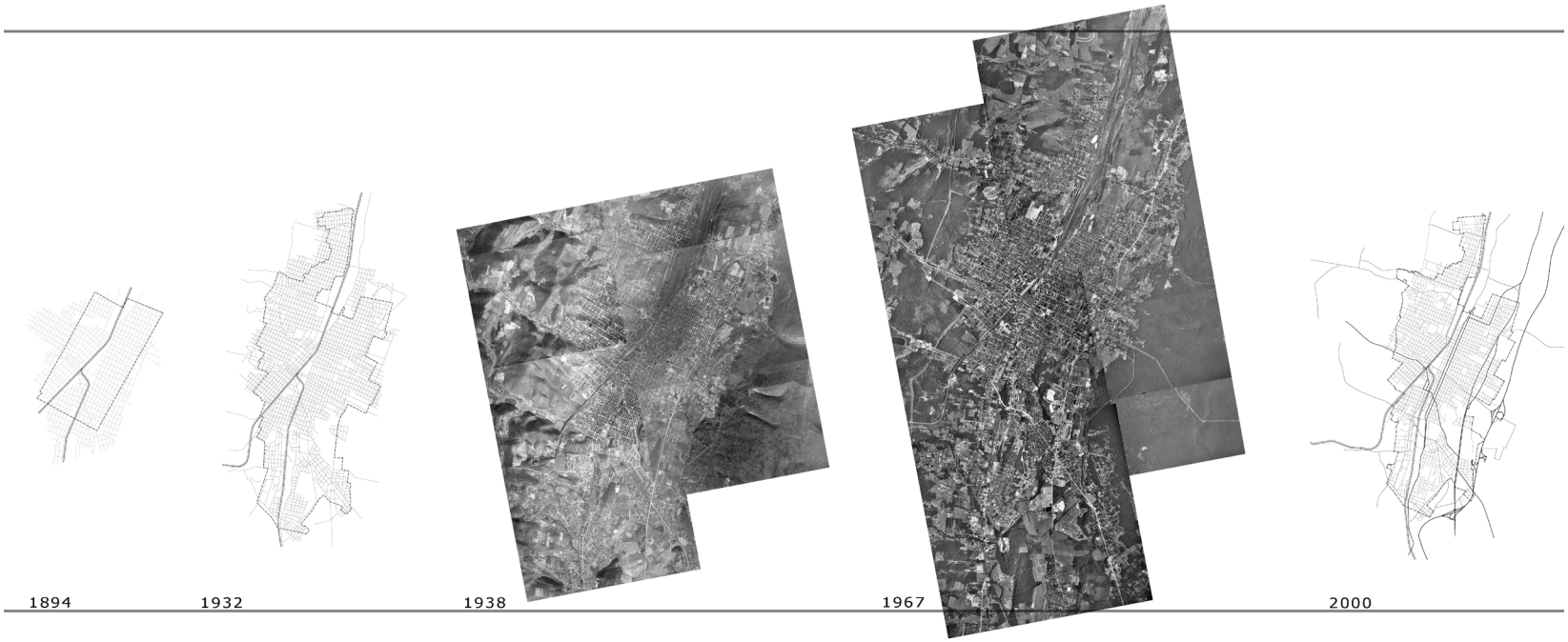
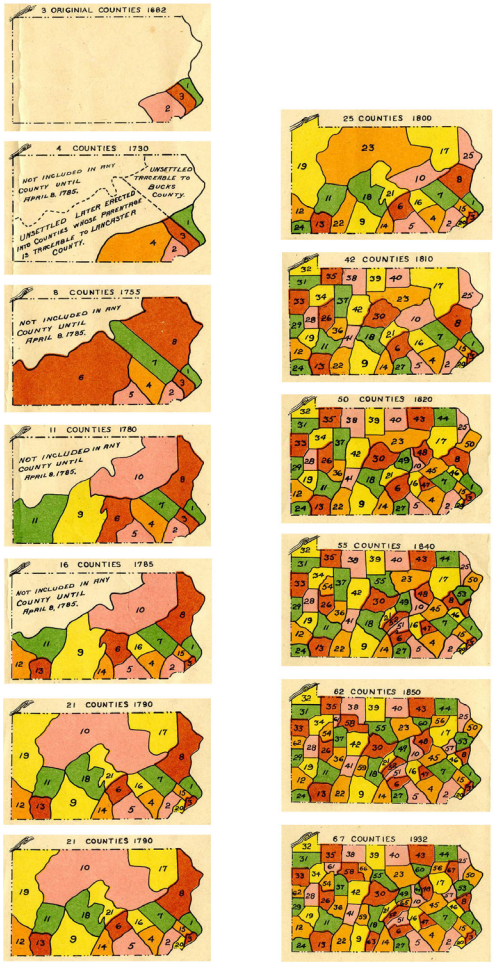


Figure 2.1.1 Growth of Altoona

The original framework of Altoona was a grid plan bisected by the railroad tracks and facilities into East and West Altoona (**Figure 2.0.2**). The railroad physically shaped and directed the form of Altoona, taking the place often of a public market or open space. The original rail yard in Altoona was centered in the vicinity of the present-day Station Mall complex between 9th and 10th Avenues. The west side of this rail yard became the commercial center, while the east side was primarily residential. The most prominent building in the early history of Altoona was the Logan House, where Abraham Lincoln held a key conference for the Loyal States in 1862 to gather support from the governors during the Civil War. The Logan House was built in 1855 as a luxurious hotel and station for passengers stopping on the railroad. It was reluctantly torn down in 1931 to construct the US Post Office building. Altoona was incorporated as a borough in 1854, when it included approximately 2,000 residents. The population grew to over 10,000 by 1870, due to the demand for rail cars during the Civil War. Altoona was finally incorporated as a city in 1868.

By 1880, Altoona's population had reached almost 20,000. Establishment of strong churches, clubs and a range of businesses accompanied this growth in residents, often backed by the Pennsylvania Railroad to entice workers to stay and provide attractions for the community of workers. The PRR was closely connected to the establishment of the infrastructure of the city by providing investments or affiliations, such as hospitals, company housing, bridges, paving, sewer, water, gas, and telephone services. In the 1880's, the PRR invested in a streetcar system linking Altoona to Hollidaysburg to the south and Bellwood and Tyrone to the north. This act promoted development throughout the regional landscape allowing residents to live further from their workplaces. Commercial development occurred along many of these trolley routes, which extended along most of the major streets of present-day Altoona. The PRR's railroad construction of the South Altoona shops in 1903 spurred development to the southern edge of Altoona. Llyswen was a carefully planned suburban community in southern Altoona that was laid out between 1894 and 1907 to take advantage of the streetcar access. Lakemont Park was built to the south of Altoona in 1894 as a 100-acre recreational attraction and amusement park developed with trolley access. Lakemont Park houses Leap the Dips, the oldest roller coaster in the world built in 1902. By 1925, 14,000 of the 17,000 industrial workers in the area were employees of the Pennsylvania



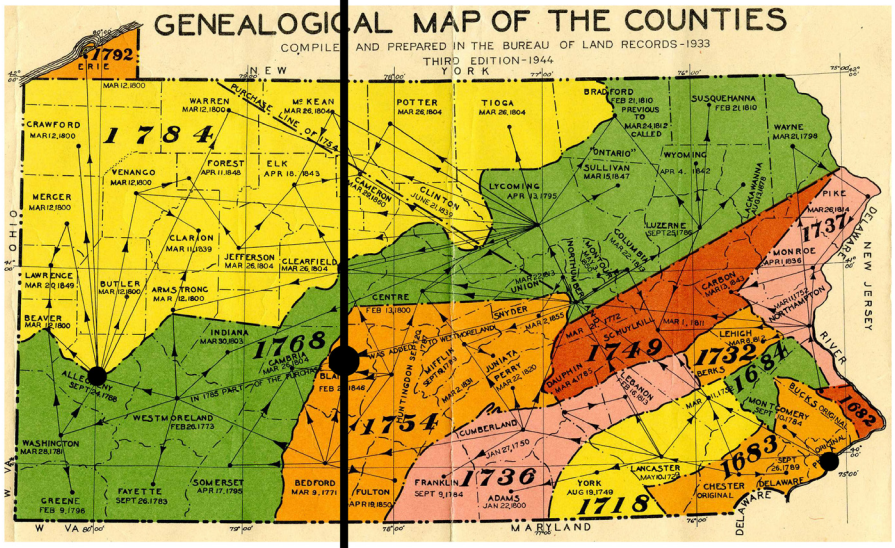


Figure 2.1.2 Growth of Pennsylvania

Railroad. Downtown Altoona for decades served as the commercial center for the entire surrounding region. The rail yards produced locomotives, other rail cars and railroad equipment. Other major industries in Altoona included silk, meatpacking and clothing.

Altoona grew through new construction and annexations that almost doubled the size of the city and added 17,000 to its population in 1929, including the annexation of a borough north of Altoona called Juniata, a section of town that housed a large portion of the workforce for the railroad (**Figure 2.1.1**). Altoona had a small immigrant population in the nineteenth and early twentieth century establishing a homogeneity in the population, but advertised this as positive for having no 'foreigners.' The workforce of the railroad was composed largely of skilled workers in the industry, ninety percent white native born.

The early 1900's saw tremendous growth, from a 1900 population of almost 39,000 to an all-time peak of 82,000 residents in 1930. The PRR felt the national decline in the 1930's, as did the city of Altoona, representative of their interconnectivity. However, by 1945 the Pennsylvania Railroad facilities complex in Altoona had still become the largest rail complex in the world. After World War II, the demand shifted from steam locomotives to more cost-efficient and reliable diesel and electric locomotives. The new diesel locomotives were estimated to require only 10 percent of the maintenance that steam locomotives demanded. As a result, the construction of new locomotives ended in Altoona in 1946 and its operations were downscaled, although the repair and maintenance of locomotives continues to employ a large number of people in Altoona. This employment has continued through changes from the Pennsylvania Railroad to Penn Central to Conrail and to present-day owner Norfolk Southern.

After World War II the era of railroad ended. In 1968, the Pennsylvania railroad merged with its rival New York Central forming Penn Central and soon after all passenger service was transferred to Amtrak in 1971. The nation quickly developed the interstate highway system, in which the corridors of commerce moved away from the cities and their rail connections. Retail activity increased and relocated to the newly developing shopping

districts located along the nearby highway corridors outside the city limits as can be seen in **Figure 2.1.3**. The Logan Valley Mall was first originally constructed as a shopping center in 1962 and was subsequently enlarged after a fire partially destroyed it in 1994. The regional highway system began in the 1970's with US Route 220 servicing the area. The 1990's saw Altoona finally getting fully linked to the interstate highway system with the I-99 corridor linking Altoona to the surrounding areas through interstate traffic in 1995. In 2007, the Logan Town Centre was opened as another large shopping complex in the city. Logan Town Centre straddles the I-99 corridor and allows Altoona to further become the retail-shopping destination of Central Pennsylvania. The population has shrunk by half since the 1930's to 49,523 currently and is expected to continue to shrink in the upcoming years.

Figure 2.1.3 Close-Up of Growth of Altoona

Point

I was born in Altoona in 1986 in Altoona Hospital, the tallest structure in Altoona phallically dominating the regional landscape. The railroad lure had long passed and the energy was focused more on the abundant retail shopping along the boulevard. I am nostalgic of the large vintage Arby's big hat sign along the boulevard and how a trip out onto the boulevard seemed like a vacation. I grew up in the era of boulevard babies with the car as a symbolic passage of rights. I was more focused on the idea of destination and not the journey.

Where do we go now?

After that where do we go?

Are they going to be there?

I grew up trying to get somewhere or go some place. I was never conscience of what was in between. Ironically, that is where the landscape exists. I was blinded to the interstitial and in that way blinded to the grand picture.

Do we have to stop?

me as point.

I was raised on the block of Third Avenue. Third Avenue is on the fringe of the original railroad development core of Altoona. It was originally named Elizabeth Street, as all of the original streets were given names of the original inhabitors sweethearts. My house is located in the East End section of the city (**Figure 2.2.1**). This was my beginning. It was my node in the fabric of the city. I lived on the east side of the tracks. My zip code was 16602; '01 was on the other side. On the surface, I only knew the landscape of the street, sidewalk, and backyard.

altoona as point.

The essence of the beginning of Altoona lies in the power of the point. As discussed earlier, the point is human stasis, either physically or temporally. The graphical point is the initial implantation onto the surface of the plane. It is the initial step in creating. The Pennsylvania Railroad created the point of Altoona. The PRR placed the point onto the surface of Pennsylvania as connected to the ideas of speculation, progress, geography, and the power of the map. The PRR actively created the regional landscape of Central Pennsylvania from the god's-eye-view, perceiving Pennsylvania as a composition of commerce and growth. The natural environment did not choose where to concentrate people, the Pennsylvania Railroad did. The area that became Altoona was the most logical joining point, both geographically and physically, between Philadelphia to the east and Pittsburgh to the West. The Appalachian Front provided a backdrop signaling the placement of a point onto the surface of a map by the newly formed Pennsylvania Railroad at the base of this ridge. The placement of that point soon activated not only Altoona and Central Pennsylvania, but also the greater Pennsylvania and eventually the industrial United States. The point of Altoona soon became a line that connected the bookend points of

Pennsylvania, Pittsburgh and Philadelphia.

Altoona existed as point in the middle. It was a node in Central Pennsylvania, getting its name from an Indian word '*allatoona*' meaning 'high fertile ground.' Altoona was a static resting point on the map of Pennsylvania, resting, waiting to be activated into a burgeoning community of industrial progress. Altoona was a point tensified by the constant movement of goods through the area. Altoona was a resting point for that movement. Once the point of Altoona was placed, lines were created on the surface through the movement of goods and people, industrial progress, and the habituation of people. Altoona was becoming a place through the activation of itself by the Pennsylvania Railroad's connection of the two points of Pittsburgh and Philadelphia across the state.

Figure 2.2.1 Point as Me

Line

Altoona is a landscape of lines. Man's placement of industrial geometry and infrastructure onto the surface of the landscape is more relevant to the sense of place than a long habitation of site with culture due to water, resources, and proximity to others. Lines placed onto the landscape drove the generation of the city of Altoona through railroad development, city blocks, cartographic speculation, and currently automobile infrastructure. The movement of points and the creation of lines on the surface framed the planar landscape of Altoona. The investigation of line placement, reasoning, and meaning becomes integral to what Altoona is. The connection of line to land and tracing the physicality of this movement breaks down the connection of man to how he interacts with his environment.

The question that becomes relevant is how much is one aware of the framework into which you were born and how does that geometry affect those who live there?

What does the geometry of line-making mean towards those who make them?

Why does man create things using lines?

ridge.

The Appalachian Ridge and Plateau became significant features for Altoona. I wish I could say that I often looked to the mountains and dreamt of climbing to the top to see the view from up there. I wish I could say that I even knew much about the topographic terrain in which Altoona was situated within. But I never looked up, I never questioned, I never saw, and I took for granted my surroundings. It was not until I began to read J.B. Jackson in my senior year of college that I suddenly saw the place that surrounded me. My eyes became wide open and I could finally see the landscape, taking for granted nothing. "Most cultural landscapes are intimately related to physical environment. Thus, the reading of cultural landscape also presupposes some basic knowledge of physical landscape" (Meinig. 1979). The ridge was the linear frame through which Altoona came to be (**Figure 2.3.4**).

The ridge that helps define the border of the western edge of town was brought to the foreground. The ridge was a barrier. It divided east from west, valley from plateau, and city from countryside. Therefore, the quality of the ridge lies in its linear relationship to create, stop, and divide space. The ridge became a line (**Figure 2.3.2**). However, the ridge cannot be thought of as a true line that man physically created. However, man created the need to move westward. Man created the need to get over the ridge. Man approached it as an obstacle, as a divider, and as a demarcation. Man represented the ridge in cartography and created a representation of it on a surface. The line made on paper but bound on the surface of the earth has both deep cultural and geological struc-

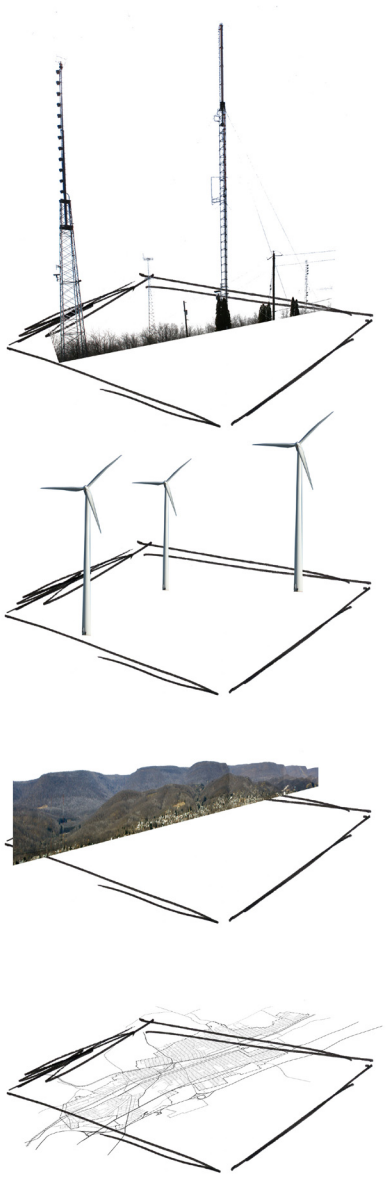


Figure 2.3.1
Historic Layers of Ridge

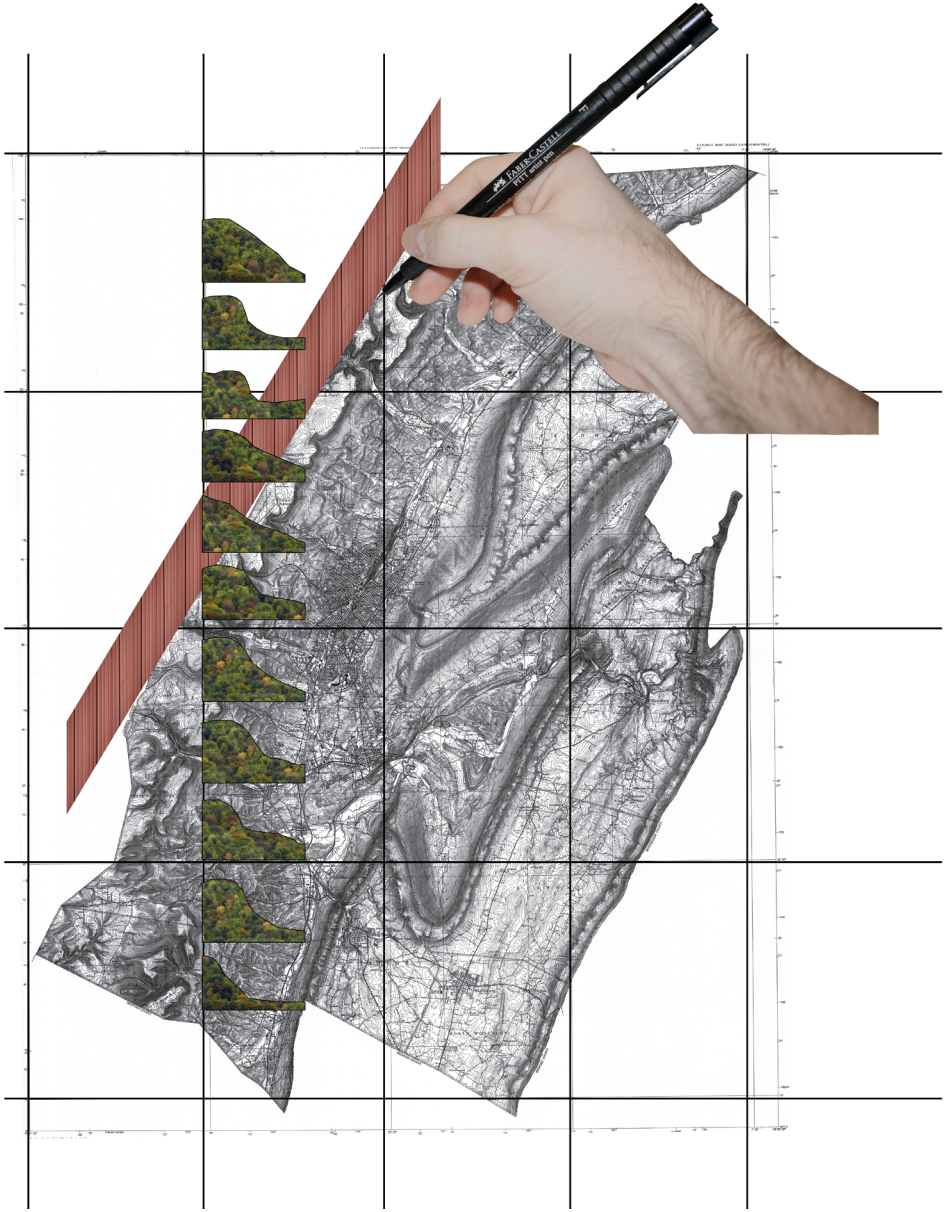


Figure 2.3.2 Ridge as Constructed Line

tural depth (**Figure 2.3.3**). The ridge stratifies itself into layers of geologic rock that provide the form of the ridge and allow the connection between form, resource mining, industry, and culture to the people of Altoona. The ridge dictated movement and development, particularly in Central Pennsylvania, and in that way helped create the planar landscape of Pennsylvania. The ridge embodies the essence of line generation.

Lines demarcate. Lines divide. Lines create. Lines activate. Lines have power.

The ridge has given Altoona a reason to become something. The ridge has given Altoona a reason to congregate in the valley. The ridge has given Altoona a reason to stop and rest. The ridge has a strong cultural and geographical tie to Altoona in the historical layering of the landscape (**Figure 2.3.1**). My generation is now placing our own definition onto the ridge, antithetical to the historical framing of the ridge onto to Altoona. My generation is the generation born into a landscape that no longer has the vitality and purpose that it did during the Industrial Revolution and the height of railroad trafficking. The ridge has become our connection to forces greater than us and to places out there, atypical of our current culture. The ridge is now lined with transmission towers providing an ironical juxtaposition for the cultural geography of Altoona with an infrastructure based on the idea of connecting spaces globally grounded onto the surface of a geological structure that has local historical and developmental roots. Moving southern along the ridge, but still in view, is the largest wind farm in Pennsylvania, the Allegheny Ridge Wind Farm. The view of spinning turbines along the ridgeline thrusts environmental, ecological, and

Figure 2.3.3
Stratification of Ridge

Figure 2.3.4 Ridge as Linear Frame

sustainable principles onto Middle America. The ridge, once a limit, an edge, a border, and obstacle, is now thrust into the position of utility and production in a post-Industrial framework. The ridge becomes the future. The ridge forced humans to stop here. Now the ridge can force the community to question how to activate it for the future and they have already begun to do so.

"No one who lives in Altoona needs to be told that it is the railroad city. Altoona did not just happen; it did not grow up from a cross-roads village started by chance as did so many other American cities and towns. The railroad did not come to it; the railroad built it." "Chief Industry of Railroad City," Altoona Tribune (January 15, 1916), sec. 5, 1.

Altoona owes all of its beauty and grace to the Pennsylvania Railroad Company. In fact, further than that, it owes itself to the failure and incapacity of the Pennsylvania Main Line canal system as the east/west link across the state. In fact, further than that, it owes itself to the Erie Canal for forcing Pennsylvania to find a link to the west in competition with New York's successful canal system. In fact, further than that, it owes itself to the burgeoning East Coast commerce and the potentiality of the vast West. Ultimately, Altoona finds itself stuck in the middle. Altoona came to be not because of its key geographic location to water or natural resources, but for its location in the middle. It existed as point in the middle.

Altoona was a resting point for that climb over the ridge. The railroad was the linear activation of that point onto the surface. The railroad is movement and the connection of points. The Horseshoe Curve, engineering marvel of the Pennsylvania Railroad, stern mother of Altoona, and nostalgic relic clinging to an idea no longer relevant, was the perfect proportional line of power to goods to the ridge. The Curve fought the terrain and triumphantly signaled the prog-

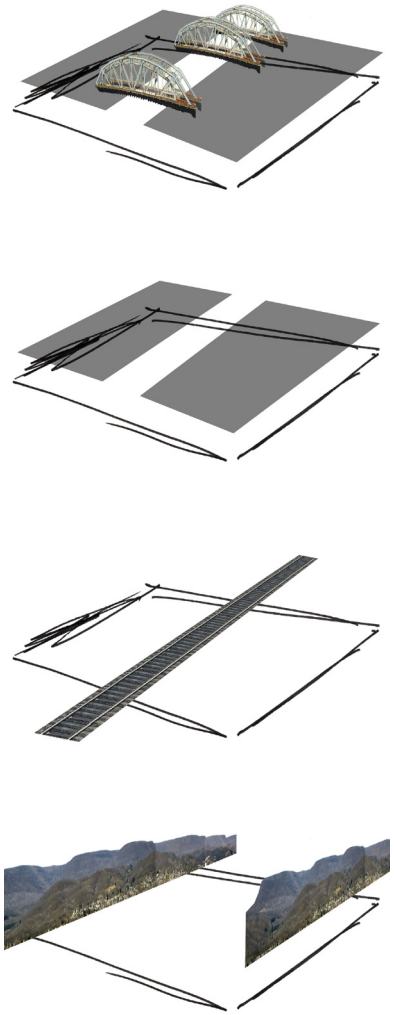


Figure 2.3.5
Historic Layers of Railroad

ress of industry. As a key point of industrial progress and transfer of goods, the Horseshoe Curve was a targeted location in the failed *Operation Pastorius* sabotage attack on American economic targets by Nazi German agents in World War II. An entire city, country, and nation of people can be empowered by the placement of a line onto the landscape. A line, a curve, or tract has cultural, economic, personal, and national meaning. This act highlights the juncture between man and the environment and how powerful the act of line making on the landscape can become.

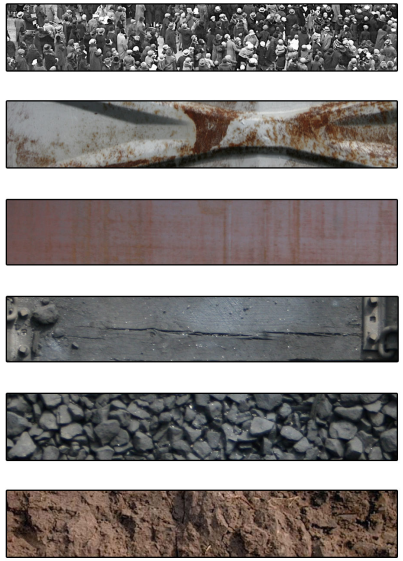


Figure 2.3.6
Stratification of Railroad

The initial layout of Altoona was based off of the placement of the railroad lines in the valley (**Figure 2.3.5**). The grid layout created a relationship to those lines with the main streets running perpendicular to the railroad tracks and the smaller residential avenues running parallel to them (**Figure 2.3.7**). The established core of the town was the railroad tracks and railroad complex centered in the valley. "The tradition of a central green or square is a very old one, and contemporary planners and architects and preservationists try to keep it alive. But it really functions as a public gathering place and symbol of unity only when the town knows how to use it" (Jackson. 1994). The PRR became that central green or square in the city.

The texture of the linear railroad core of Altoona is of industry and lacks any sense of people or ecological relationship (**Figure 2.3.8**). The railroad tracks that are used today are predominantly used to transfer goods and not the movement of people. The layered constructedness of the railroad infrastructure is related to the more industrial and natural resources of the region as a reiteration of the power of the railroad in Pennsylvania (**Figure 2.3.6**). Even the

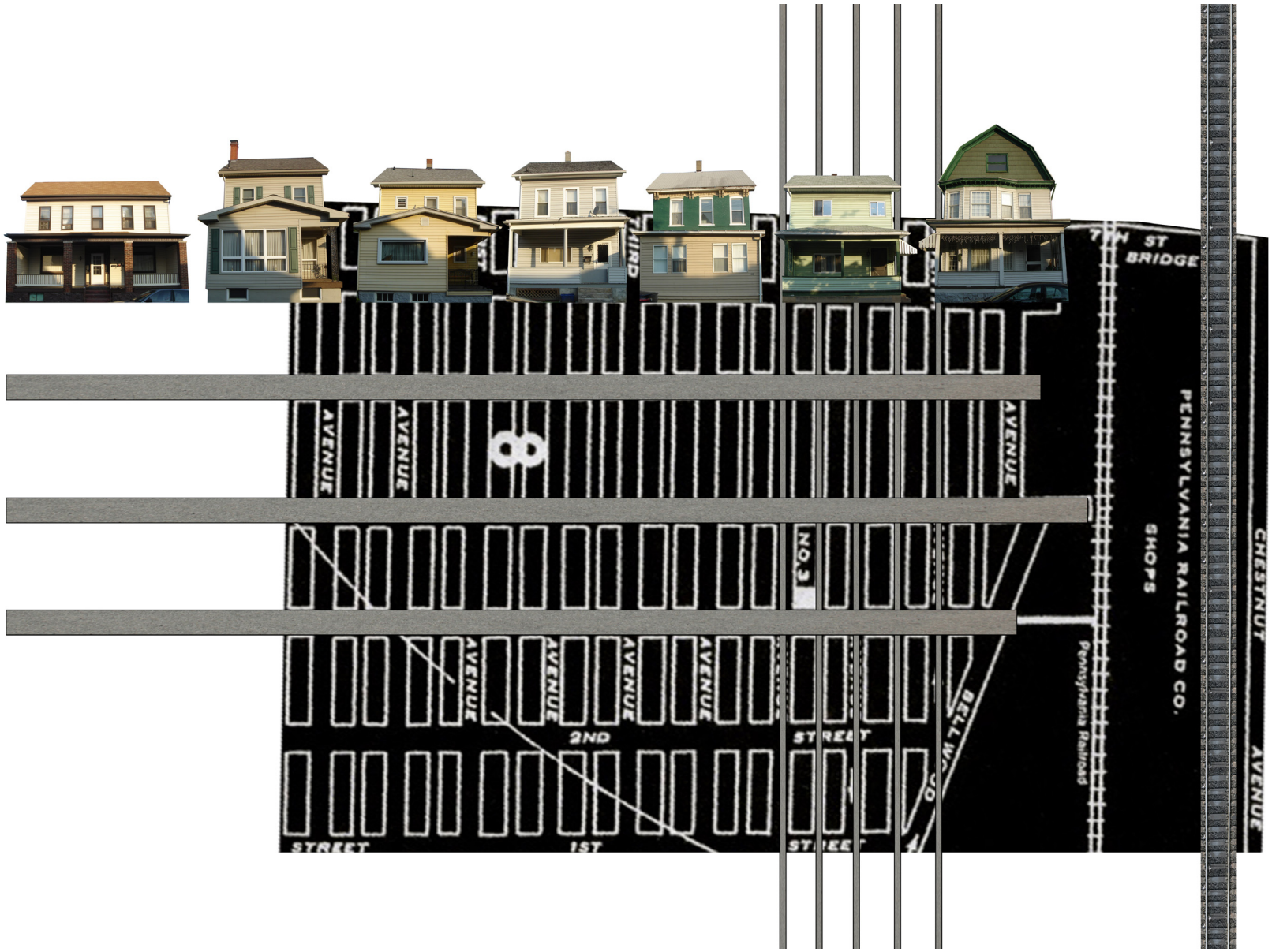


Figure 2.3.7 Railroad and Residential Development

line making of the peripheral speculative development focused on its relationship to those steel tracks (**Figure 2.3.7**). "A great majority of American towns started and grew on the grid plan because of the ease of its layout in surveying, its simplicity of comprehension, and its adaptability for speculation" (Jackson. 1970). The grid situated itself onto the valley topography in a manner that heightened the placement of the railroad tracks. The gridded and speculative main avenues puncturing the core allowed one to understand the topography by providing a datum, empowering the provider of the city, and establishing a hierarchy onto the regional landscape.

As a child born and raised in Altoona, I owe the Pennsylvania Railroad some gratitude. Like Altoona, I came to be because of those steel tracks. My parents met while working for the Pennsylvania Railroad in 1966 as card-punching clerks. They were part of a shift of workers keeping track of the traffic of railroad cars coming through the facilities for billing purposes. The Pennsylvania Railroad, since its inception until the 1970's, was the main supplier of work for those living in Altoona. As a city so tightly connected to the railroad industry for so long I can almost be sure I am not the only railroad offspring brought up in Altoona.

One begins to wonder of the grandeur of the railroad in a town so emphatically proclaimed as the mecca of railroad production, maintenance, and folklore in the uprising of industrial America. The railroad is no longer the linear generator of force in the regional landscape. The connection between work, recreation, and home is no longer strung between the railroad tracks. It leaves the lines created as monumental landscapes no longer connected to the vernacular. The railroad infrastructure is currently still in use by Norfolk Southern exhibiting a remnant railroad lifestyle. Altoona, rightfully so, utilizes the remnant railroad relics as a force to generate interest in the regional history and to stimulate tourism and the economy. For example, the AA minor league baseball affiliate of the Pittsburgh Pirates is located in Altoona and is named the Altoona Curve. However, the Altoona Railroaders Memorial Museum has struggled since its inception in 1998 to bring in tourists and operate itself. There is a clear disconnect between the current culture and those steel lines bisecting the city of Altoona.

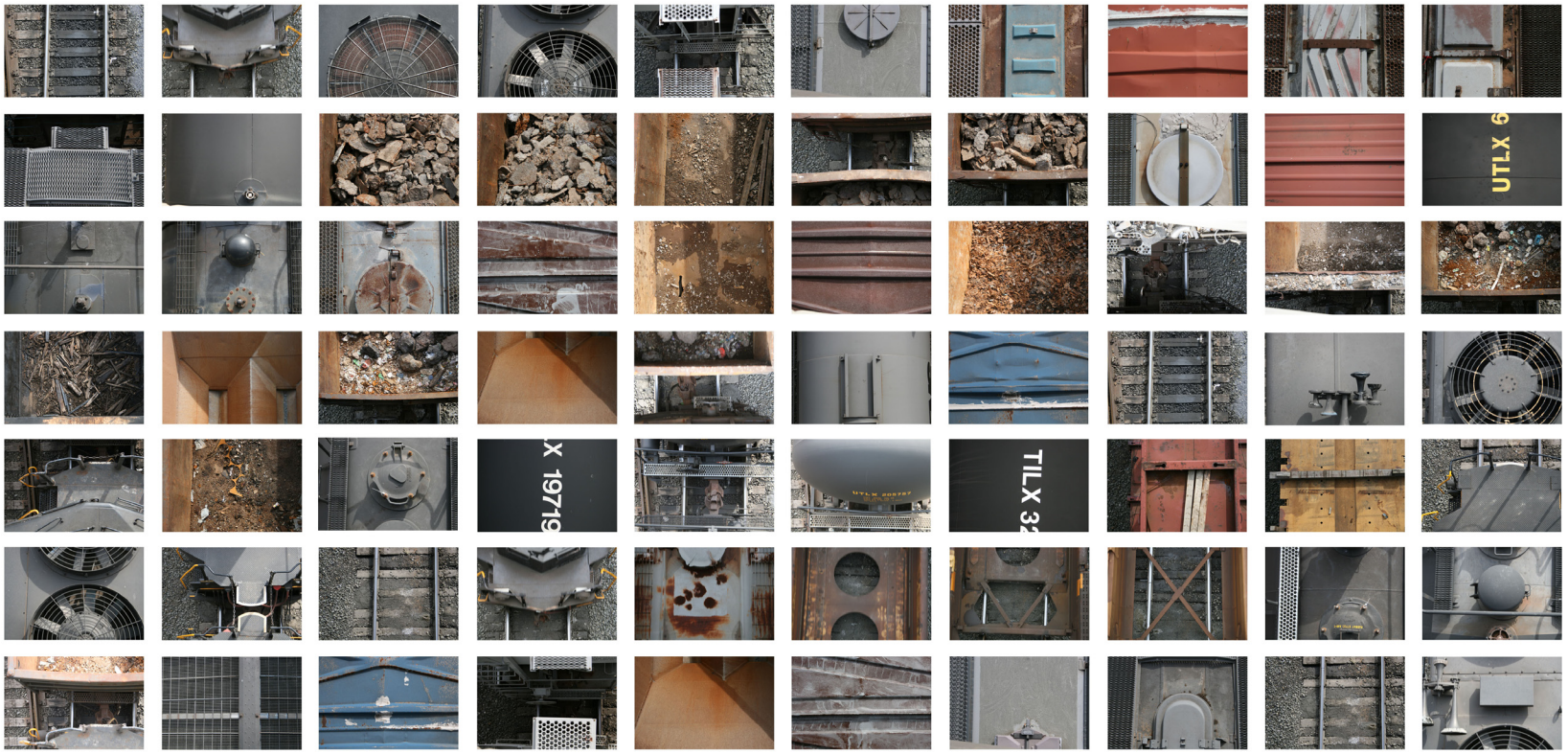


Figure 2.3.8 Railroad as Linear Texture

c a r .

As the industrial railroad compressed distant landscapes, the automobile now determines most contemporary form on the landscape. The metrics of the car - turning radiuses, lane widths, traffic speeds, stoplights, suburban development, parking requirements, emergency access, highway landscapes – can be felt everywhere. This is the landscape I was born into, a very different landscape from that of the nostalgic industrial railroad glory days. The car is the infrastructure of now; growth comes through access of the automobile. "Roads no longer lead to places; they are places. And as always they serve two important roles: as promoters of growth and dispersion, and as magnets around which new kinds of development can cluster" (Jackson. 1994). The developments spurred by the PRR's use of the public trolley and streetcar are ironically today reached only by automobile traffic. Growing up in Altoona, you realize that you can confront the city only by using the car. The railroad infrastructure that centered the industrial birth of the core and downtown of Altoona are an inconvenience for negotiating the contemporary city by automobile. A bridge is only needed when two things are separated. The two sides of Altoona connect visually due to street layout and the valley topography, but physically connect only in only four bridging locations. There is no sense of being a pedestrian throughout the city because interaction with the landscape of Altoona occurs through the rigidity of vehicular movement from street to street, lot to lot, and car door to car door.

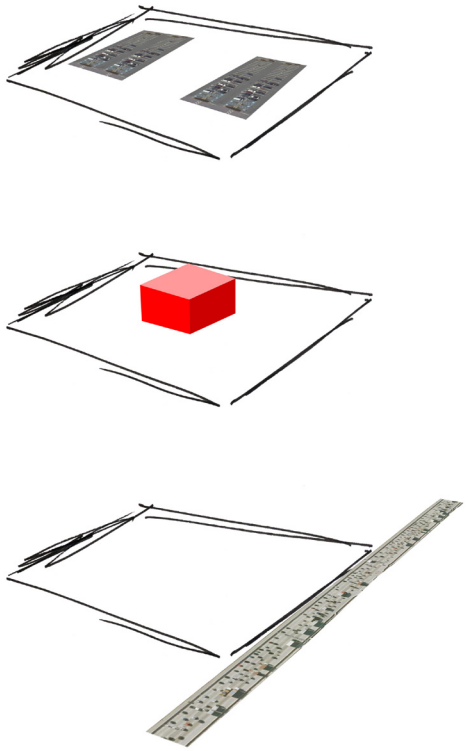


Figure 2.3.9
Historic Layers of Boulevard Development

The city of Altoona came to be a city of destinations, rather than a cohesive en-

vironment. This was facilitated through the automobile, strip development, a vacant core, and a consumer economy. The car helped to stretch Altoona. Now it is currently filling in the spots. The contemporary center of Altoona and core is the boulevard strip development that has occurred outside the city limits with shopping centers, big box stores, and malls (**Figure 2.3.11**). It is a core of retail consumption that is strung through the landscape and experienced only through the infrastructure of the automobile moving from boulevard to parking lot to big box store (**Figure 2.3.9**). The Interstate 99 corridor proved to help facilitate commercial strip development with the Logan Valley Mall, the boulevard, and the newly built Logan Town Centre as a means to provide access and hierarchy to the regional landscape.

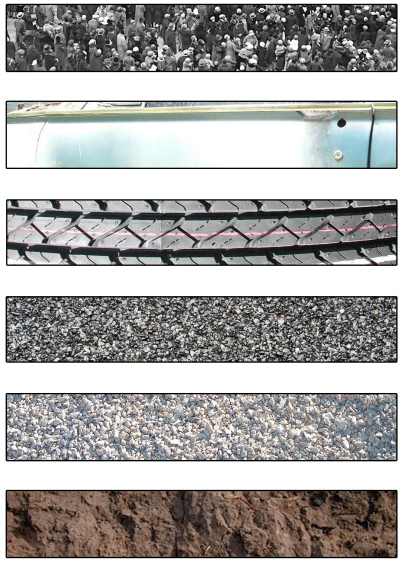


Figure 2.3.10
Stratification of Automobile

The Interstate and car infrastructure established itself similar to the way the Horseshoe Curve and railroad altered the landscape. It is a line system placed onto the landscape, cutting into mountains, flattening ridges, bisecting rock faces, and built to transfer goods and people. The structural layering of the car infrastructure parallels the current globalization of the economy and fuel industry (**Figure 2.3.10**). The road surface is made from a byproduct of the gasoline making process creating a continual process of consumption and development. The linear texture of the car infrastructure speaks more on a personal level because of the common communal experience of man traveling in a car and the use of roads as a means to get places. Whereas the railroad brought industry and skilled workers, the Interstate system brings commercial development, big box stores, and unskilled laborers. The Interstate has a more far-reaching effect because of its ability to tackle the surfacial environment in an aggressive manner. J.B. Jackson speaks of the highway system as a disre-

Figure 2.3.11 Structuring of Boulevard Development

Figure 2.3.12 Car as Linear Texture

gard of local landscape features in a vastness of scale with a clear emphasis on commercial functions (Jackson. 1984).

Plane

Altoona is formed through the line making of the past. The surface is laid with a grid pattern of lines from the Pennsylvania Railroad, scrambled lines of automobile infrastructure, while all framed through that bisecting ridgeline drawn onto the map of Pennsylvania and pushed upwards from the surface of the earth so many years ago. The landscape is a plane of habitational marks on the surface layered upon itself. The landscape is a constant confrontation of the past with the present and the perpetual dragging along of that past forward into the future. The past is scraped, shed of layers of impurities, and rolls along as a shiny representation of those days, but only as to what is relevant to the current culture.

What does Altoona become if it isn't the railroad?

What will be the new line on the landscape of Altoona?

Is Altoona done making new lines, only left to confront and mitigate the lines made by others?

intersections.

The landscape of Altoona is the fabric created by the intersections of railroad development, the Appalachian Ridge, and car-driven development, all framed through the people of Altoona (**Figure 2.4.1**). The landscape is continually being constructed through those who live within it. The depth of the cultural landscape lies in the intersections of those historical forces. The landscape as a diverse surface, when thought of in terms of its role to empower urban form, can bring together competing forces into new liberating and interactive partnerships. The future or potentiality of the Altoona landscape is where these lines intersect and can produce new forms, ideas, and spaces (**Figure 2.4.3**). The landscape can "resist the homogenization of the environment while also heightening local attributes and a collective sense of place" (Corner. 1999). The intersection of ridge, car, and train provides the framework for a future landscape that centers itself not on a hierarchical structuring, but on a milieu of amalgam patterning.

"Authors as divergent as J.B. Jackson and Jean Baudrillard have shown how the modern landscape – at least in America – is no longer one of place, hierarchy, and center but one of transience, mobility, circulation, and exchange" (Corner. 1999). The landscape relationship initiated by the PRR was centered on the industry of the railroad at the core. The railroad complex took the place of the more timeless open market space or green park in the makeup of the city. As the railroad collapsed, the city did as well. The segmented and fractured landscape that was left was filled with the infrastructure of the automobile.

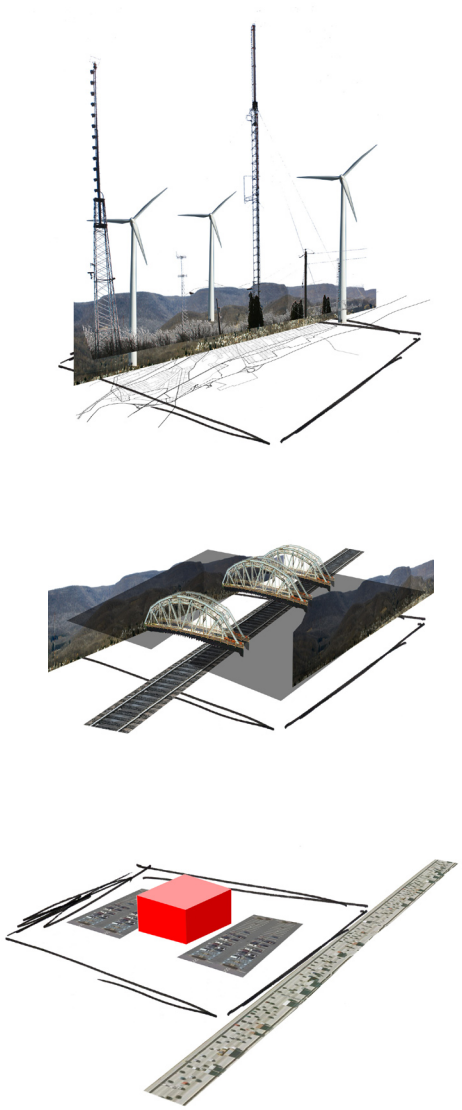


Figure 2.4.1
Historic Layers of Altoona Landscape

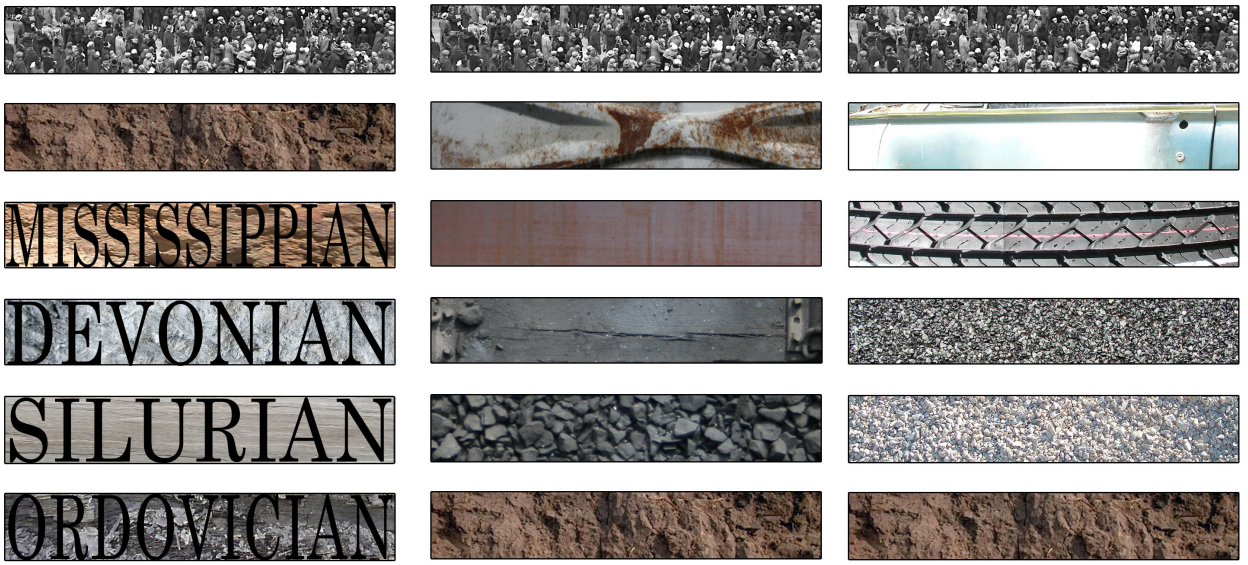


Figure 2.4.2 Stratification of Altoona Landscape

"Landscape is not given but made and remade; it is an inheritance that demands to be recovered, cultivated, and projected toward new ends" (Corner. 1999). With no strong core, a more linear pattern of development strung through the valley along the rail corridor, and the trolley car spurred suburbs, the automobile functioned to physically connect these spaces. The ridge exists as a backdrop to the Altoona landscape, a mere sentimental and unreflective frame to view the city. The potential amalgam of relationships rests in the unmasking and revealing of the ridge in a more contemporary landscape of automobile infrastructure and nostalgically rusting railroad folklore for the city of Altoona.

nostalgia.

"Landscape is presented as a place of escape from the ills of the present and anxieties about the future. This cycle of sentimental aestheticization compounds the difficulty of forging a critical and fresh landscape. Instead, the tendency today is to treat landscape as a giant commodity. The built result in much of Europe and the United States is typically… a depressing cultural atrophy whereby all hope for the future is replaced too high a regard for past accomplishments" (Corner. 1999).

The process of landscape nostalgia is what drives tourism – the infatuation with the glory of the past, the exposure of historic patterns on the landscape, exploring the structure of a previous society. Preserving the past becomes a static record, rupturing that space, place, or object from the current cultural layer of the landscape presenting it as a celebration and trophy of history. We mark it with signs, a museum in the case of the Pennsylvania Railroaders Museum in Altoona, and cultivate a record for its existence into the future. By separating such elements from the landscape through the simple act of appreciation and preservation, we impede the cultural process of those elements becoming intertwined into the milieu of the landscape. "For even to appreciate the past is to transform it. Every trace of the past is a testament not only to its initiators but to its inheritors, not only to the spirit of the past, but to the perspectives of the present" (Meinig. 1979).

people plane.

The landscape plane of Altoona is dependent upon the people that confront the landscape and activate it. An investigation into the structuring of the historical forces upon the landscape can produce new relationships and add a new layer to the planar landscape of Altoona (Figure 2.4.2). The plane can only be affected when drawn

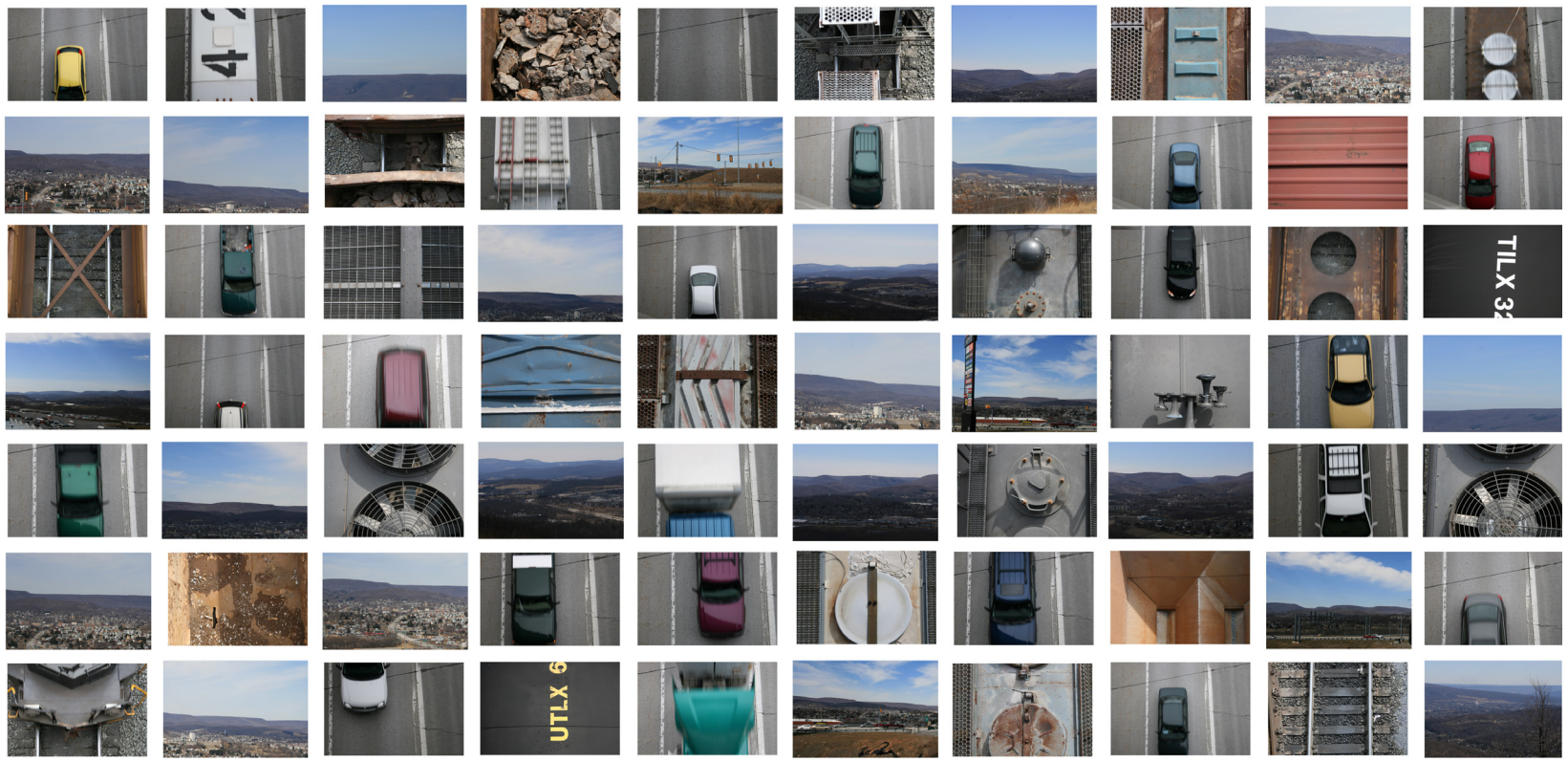


Figure 2.4.3 Landscape as Linear Texture

upon, therefore, the empowering points of the people of Altoona will be the ones who activate the plane of the landscape through their line making, either through new lines, filler lines, or lines of correctedness. The line of the automobile has stretched Altoona to its capacity. As has shown with the development of the landscape of Altoona from ridge to railroad to car, once a framework of lines has run its course the next series of lines works within that framework and reacts to the current culture. Concurrent with the present push for the culture of a green global economy, an ecological line framework may add another layer to the milieu of the landscape of Altoona in Middle America.

The landscape is the confrontation of people with the environment. As point, man activates himself and builds, speculates, habituates, travels, represents, and contemplates. The product of that activation is typified by a linework such as streets, communities, cities, or maps placed onto a surface. When those lines intersect, the plane of the landscape is created. We are points making lines creating landscapes. Our interaction with environmental stimuli follows the process of eye to mind to body, specifically to our hands or feet. This is the act of creating the landscape, whether through representation such as painting, or cartography with map-making, or the construction of cities, streets, and communities. And we do this act by using lines to create things.

Man makes. Man moves. Man creates. Man creates landscape.

The landscape becomes a reflective form of work because of the inherent path of the landscape through the body before it becomes a layer upon the earth. The landscape is a human construct. It has depth in the sense that it can expose the thoughts of a nation or world in the macro scale or one person in the micro scale. As points on a surface we interact with each other, constantly congregating and separating in relation to that surface. In the broadest sense, we create lines as evidence of that movement and to facilitate our surfacial movement. The lines that we create have meaning to the maker and transpose a set of beliefs onto the surface of the earth. History is in that landscape. Future is in that landscape for the landscape has formative power. The landscape will be present for as long as we are because we will always be congregating and separating. We will always be confronting the natural environment. We will always be representing our environment. We will always be creating our environment. And we will always be alive.

"The human condition is a relentless struggle between the forces of stability and change, universal and particular, outer and inner, certainty and ambiguity, truth and forgetting. Even though research tends to legitimize itself as an objective search for knowledge about visible phenomena, it is in fact a subjective search for ourselves." (Gunnar Olsson)

Epilogue

I realize that I cannot grasp the entirety of the idea of landscape in this work or in my time on earth within it. I realize that the idea of landscape continually evolves and changes with each new person that interacts with it. The illusiveness of the landscape is what makes the concept of landscape a rich scholarly inquiry. The investigation that I have brought forward merely initiates a continual dialogue with the landscape. As a designer I am continually searching for an understanding of, a connection to, and a glimpse of the essence of landscape. Finalizing on how the landscape shapes the world and man's connection to our environment would leave me nothing more to search for. I would no longer be on a journey to the *heavenly* landscape. We only hope to someday come to an understanding of truly what the landscape is in regards to ourselves. We search for it, we find signs of it, and our imagination allows us to see it even when it is not there. I may never see that ah-ha landscape, but the journey and the *faith* of that moment is what truly deconstructs the idea of landscape. I may act as a *preacher* of the landscape, but I myself have never seen it. I have had visions and it has spoken to me, but as a designer I merely act as mediator between man and the landscape. I lead and design in hopes of creating spaces where man and the environment coalesce into a *pure* landscape.

Further research into the idea of creating landscapes would involve an exploration into the verticality of landscapes. I have focused on the horizontality of the landscape as a plane that we act upon, whereas in a modern urban situation the experience of landscape rests in the vertical positioning of skyscrapers and towers. Where the horizontal lacks room, man moves vertical and this is an idea I haven't given much attention. More research should also focus on the use of the digital in the process of creating landscapes. My premise of exploring the cyclical process of eye to mind to hand to landscape inherently changes with the addition of the digital. The digital aspect to landscape frames a new reality and produces another layered veil of representation to the surface of earth through such activities as Google Earth, GIS, and many 3-D modeling programs.

MAKING THE LANDSCAPE

Point

Line

Plane

ALTOONA

History

Point

Line

Bibliography

Bacon, Edmund. 1974. *Design of Cities.* New York, NY: Penguin Books.

Casey, Edward. 2005. *Earth-Mapping: Artists Reshaping Landscape.* Minneapolis, MN: University of Minnesota Press.

Czerniak, Julia. 2006. *Fertilizers: Olin/Eisenman.* Philadelphia, PA: Institute of Contemporary Art.

Corner, James, Ed. 1999. *Recovering Landscape: Essays in Contemporary Landscape Architecture.* New York, NY: Princeton Architectural Press.

Corner, James; MacLean, Alex. 2000. *Taking Measures Across the American Landscape.* New Haven, CT: Yale University Press.

Cosgrove, Dennis, Ed. 1999. *Mappings.* London, UK: Reaktion Books.

Cosgrove, Denis; Daniels, Stephens, Eds. 1988. *The Iconography of Landscape.* Cambridge, UK: Cambridge University Press.

Fieldhouse, Ken; Harvey, Sheila. Eds. 2005. *The Cultural Landscape*. Routledge.

Golledge, Reginald; Rushton, Gerard, Eds. 1976. *Spatial Choice and Spatial Behavior: Geographic Essays on the Analysis of Preferences and Perceptions.* Columbus, OH: Ohio State University Press.

Golledge, Reginald; Stimson, Robert, Eds. 1997. *Spatial Behavior: A Geographic Perspective.* New York, NY: The Guildford Press.

Hall, Edward. 1966. *The Hidden Dimension.* Garden City, NY: Anchor Books.

Hein, Alan; Jeannerod, Marc. Eds. 1983. *Spatially Oriented Behavior.* New York, NY: Springer-Verlag.

Hough, Michael. 1990. *Out of Place: Restoring Identity to the Regional Landscape.* New Haven, CT: Yale University Press.

Jackson, J.B; Zube, Ervin, Eds. 1970. *Landscapes: Selected Writings of J.B. Jackson.* Boston, MA: The University of Massachusetts Press.

Jackson, J.B. 1984. *Discovering the Vernacular Landscape.* New Haven, CT: Yale University Press.

Jackson, J.B. 1994. *A Sense of Place, a Sense of Time.* New Haven, CT: Yale University Press.

Jellicoe, Geoffrey; Jellicoe, Susan. 1995. *The Landscape of Man.* New York, NY: Thames & Hudson.

Kandinsky, Wassily. 1979. *Point and Line to Plane.* New York, NY: Dover Publications

Kastner, Jeffrey, Ed. 2005. *Land and Environmental Art (Themes and Movements).* London, England: Phaidon Press.

Klee, Paul. 1964. *Paul Klee: the thinking eye.* New York, NY: George Wittenborn Inc.

Klee, Paul; Klee, Felix. 1968. *Diaries of Paul Klee, 1898-1918.* Berkeley, CA: University of California Press.

Leatherbarrow, David. 2004. *Topographical Stories: Studies in Landscape and Architecture.* Philadelphia, PA: University of Pennsylvania Press.

Lefebvre, H. 1991. *The Production of Space.* Oxford, England: Basil Blackwell.

Long, Richard. 2002. *Richard Long: Walking the Line.* London, England: Thames & Hudson.

Lynch, Kevin. 1960. *The Image of the City.* Cambridge, MA: Massachusetts Institute of Technology.

MacLean, Alex. 2006. *Air Lines: Photographs by Alex MacLean.* Salem, MA: Peabody Essex Museum.

MacLean, Alex. 2003. *Designs on the Land: Exploring America From the Air.* New York, NY: Thames & Hudson.

McHarg, Ian. 1995. *Design with Nature.* New York, NY: John Wiley & Sons.

Meinig, D.W, Ed. 1979. *The Interpretation of Ordinary Landscapes: Geographical Essays.* New York, NY: Oxford University Press.

Newton, Norman T. 1971. *Design on the Land: The Development of Landscape Architecture.* Cambridge, MA: Harvard University Press.

Olsson, Gunnar. 1991. *Lines of Power: Limits of Language.* Minneapolis, MN: University of Minnesota Press.

Paige, John. 1989. *A Special History Study: Pennsylvania Railroad Shops and Works, Altoona, Pennsylvania.* Washington D.C: National Park Service, U.S. Department of the Interior.

Pickles, John. 2004. *A History of Spaces: Cartographic Reason, Mapping and the Geo-Coded World.* New York, NY: Routledge.

Spirn, Anne Whiston. 1998. *The Language of Landscape.* New Haven, CT: Yale University Press.

Stilgoe, John. 1982. *Common Landscape of America: 1580 to 1845.* New Haven, CT: Yale University Press.

Swaffield, Simon, Ed. 2002. *Theory in Landscape Architect: A Reader.* Philadelphia, PA: University of Pennsylvania Press.

Waldheim, Charles, Ed. 2006. *The Landscape Urbanism Reader.* New York, NY: Princeton Architectural Press.

Wallace. Kim. 1990. *Railroad City: Four Historic Neighborhoods in Altoona, Pennsylvania.* Washington, D.C: National Park Service, U.S. Department of the Interior.